

What is claimed is:

1. A tire status monitoring apparatus for monitoring statuses of a plurality of tires provided on a vehicle, the tire status monitoring apparatus comprising:

transponders provided on the respective tires which detect statuses of the tires in response to a request signal and generate transponder data including data indicative of the statuses of the tires detected; and

a transceiver which transmits the request signal to each transponder, receives the transponder data from each transponder, and determines the number of times the request signal is transmitted per unit time in accordance with speed of the vehicle.

2. The tire status monitoring apparatus according to claim 1, wherein the transceiver determines a time interval at which the request signal is transmitted in accordance with the speed of the vehicle.

3. The tire status monitoring apparatus according to claim 1, wherein the transceiver changes the number of times the request signal is transmitted per unit time as the speed of the vehicle changes.

4. The tire status monitoring apparatus according to claim 1, wherein the transceiver increases the number of times the request signal is transmitted per unit time as the speed of the vehicle becomes faster.

5. The tire status monitoring apparatus according to claim 1, wherein the transceiver has a plurality of speed regions including a first speed region and a second speed

region in which the speed of the vehicle is faster than that in the first speed region, and

when the speed of the vehicle changes to the second speed region from the first speed region, the transceiver increases the number of times the request signal is transmitted per unit time.

6. The tire status monitoring apparatus according to claim 1, wherein the data indicative of the status of the tire includes data about air pressure of the tire.

7. The tire status monitoring apparatus according to claim 6, wherein the data indicative of the status of the tire includes data about temperature inside the tire.

8. The tire status monitoring apparatus according to claim 6, wherein the transponder data includes an ID code for identifying each tire.

9. A method of monitoring statuses of a plurality of tires provided on a vehicle wherein each tire includes a transponder which generates transponder data including data indicative of the statuses of the tire and the vehicle includes a transceiver which receives the transponder data from each transponder, the method comprising the steps of:

detecting the speed of the vehicle;

determining the number of times a request signal is transmitted per unit time to the plurality of tires in accordance with the detected speed of the vehicle;

transmitting the request signal to each transponder from the transceiver by the decided number of transmissions of the request signal per unit time;

causing the transponders to detect the statuses of

the tires in response to the request signal and generate the transponder data; and  
transmitting the transponder data to the transceiver.

10. The method according to claim 9, wherein the step of determining the number of transmissions includes increasing the number of times the request signal is transmitted per unit time as the speed of the vehicle becomes faster.

11. The method according to claim 9, wherein the data indicative of the status of the tire includes data about air pressure of the tire.